



BROOKHAVEN BULLETIN

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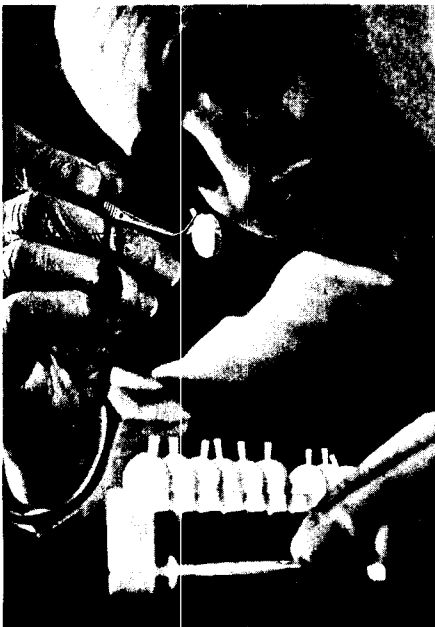
Volume 27 - Number 14

April 6, 1973

Human Blood Cells Grow Outside Body In Viable Chamber

Successful research and development of a viable diffusion chamber system, which for the first time makes it possible to duplicate the living, continuously-functioning system of human blood cell reproduction outside of the human body, has been achieved at the Medical Research Center of Brookhaven National Laboratory. It is conceivable that some day diffusion chambers can be used to grow healthy bone marrow for "transfusions" similar to blood cell transfusions of today.

Human blood cells originate in a highly complex manner within the bone marrow at the rate of hundreds of billions per day. It is generally believed that red and white cells, and platelets circulating in the vascular system originate from a common parent, the stem cells in bone marrow. What really happens deep in the marrow — how these parent blood cells divide into succeeding generations which later become



Shirley Dunwoody, a Technician in Dr. Carsten's lab, examines one of the diffusion chambers.

either oxygen-carrying red cells, body-protecting white cells, or clot-forming platelets, and what happens to these elements as they pass from the marrow to the circulatory system — is still largely a mystery. However, hopefully, the diffusion chamber system or other similar systems will soon unravel this mystery and shed light on the origin of some blood diseases.

The search for methods to study the defects in the body's regulatory system which trigger blood diseases such as leukemia is not new. In the 1800's the famous scientist, Metchnikoff, suggested using a porous bag in which to grow blood cells as a means to study their function. His technique did not work, but the search went on. Until BNL's success, all of the attempts failed, because they did not match the body's own process closely enough to allow growth of all cell types.

The task of devising a system for the continued growth of human blood cells outside of the human body was achieved by a team headed by Dr. Eugene P. Cronkite, Chairman of Brookhaven's Medical Department, Drs. Arland L. Carsten and G. Chikkapa.

The specific effort that led to the Brookhaven success began in October, 1969, when Dr. Arne Boyum, a Toxicologist from the Norwegian Defence Research Establishment, Kjeller, Norway, came to BNL's Medical Research Center as a Research Collaborator in Residence and brought the basic idea with him. He returned to Norway in December, 1970, but remains an active participant in the research program.

Blood normally consists of 55 percent fluid (plasma) and 45 percent red and white cells, and platelets. Cells originating in the bone marrow include the very important lymphocytes which act as "sentries" to detect the presence of a foreign body and trigger other white cells into protective or immune reactions. The fluid contains nutrients obtained from other body organs, and thus is both the provider of energy necessary for cell division and growth in the marrow, and the carrier system for the cells to perform their function throughout the body after they leave the bone marrow. In any system in which one expects to duplicate the human process, both cells and a flowing source of life-supporting fluid must be present.

The diffusion chamber used is deceptively simple. It consists of a plastic ring with a filter paper attached on each side, put together like a sandwich. The filter openings are too small for cells to pass through, but large enough to let fluid through.

Stem, or parent cells from human bone marrow are placed in the chamber formed by the hollow core of the ring. This whole chamber is then transplanted into the abdominal cavity of a mouse, where it floats in an in-vivo (living) location rich in the vital fluid and nutrients needed for cell proliferation.

The mouse thus becomes a living laboratory, producing human blood cells in a manner that not only duplicates the human bone marrow, but is readily accessible to observation and analysis by the scientist. Furthermore, the process takes place within a total living system that can be subjected to either insults or treatments associated with blood disease; thus it presents unparalleled opportunities to study any regulatory factor that malfunctions and which is perhaps the cause of a blood disease. Such information could ultimately lead to improved treatments.

Dr. Cronkite has strongly emphasized that this system has led to no cures. However, this work does open a door for researchers at Brookhaven National Laboratory and elsewhere that heretofore was closed and thus the approach does have great potential.

Since it was first reported at a medical conference in 1972, many other research laboratories have been successfully using the Brookhaven diffusion chamber technique.

Mountain Club Meeting

There will be a meeting of the Mountain Climbing Club on Thursday, April 12, at 7:30 p.m., in the Recreation Building.

Guest for the evening will be Chuck Louks who will give a technical talk and show slides on rock climbing.

Mr. Louks will lead a climb in the Gunks on the following Saturday, April 14.

Vinyl Liner For Spray Irrigation



Workers unroll one of the two vinyl liners installed in the first two meadows of the Spray Irrigation Project located at the Southeast corner of the Laboratory.



The 20-mil vinyl liner is stretched out and prepared for anchoring in the trench. Each liner measures 44 feet by 177 feet.



The seam in the liner is cemented prior to covering with 6 inches of topsoil. Experimental grass will then be planted by the Biology Dept.

Mets Tickets Now On Sale

As in past years, BERA has purchased eight box seats for 56 home games of the 1973 Mets baseball season. The dates include all scheduled Sunday games, nights, Labor Day, and a Twi-Night double-header.

With the cost of everything else going up, we are pleased to announce that the price of Mets tickets remains the same at \$4.25.

Tickets are now being sold at the BERA Sales and Services Office, located in the Cafeteria. There too, you can get a copy of the season schedule for future buying.

For other information call Susan Ayala on extension 3347.

Miniature Wildlife Carvings

A colorful exhibit of miniature Wildlife Carvings is now on display at the Research Library. The Chickadees, Cardinals, Ducks and other birds were carved and assembled by Phil Miller of the Plant Engineering & Maintenance Division.

Softball Season Coming

It's just about time to start organizing your team for the upcoming season. Action is scheduled to begin the first part of May. The committee will be meeting soon to draw up the grand plans for another successful season in the sun.

Find out who ran your department team last year and tell him you're ready to play again. If your group did not have a team, start one. All you need is six willing bodies from your group to form the nucleus, and another seven to field a team. We've got three men's leagues who will be playing on three different evenings a week, and a mixed league playing on Tuesdays.

Play is right after work at 5:30 p.m. at the Brookhaven Employees' Recreation Park. All the leagues are geared for fun. Teams are placed in leagues of equal ability, so you don't have to be a super-star to join in.

Applications will be available at the BERA Sales-Services Office in the Cafeteria soon. Watch the paper for additional information.

Service Awards — April

25 Year
Boyd, Henry Staff Services
Craig, John Instrumentation
Davis, Raymond Jr. Chemistry
Formhals, Gustave Plant Engr.
Galli, Marilyn Information
Hamilton, Alfred Jr. Mechanical Engr.
Hartmann, Ernest Health Physics & Safety
Karan, Stephen Plant Engr.
Phillips, Jack Reactor
Redmond, Leo Accelerator

20 Year
Prach, Thomas Applied Science

10 Year
Busch, William Accelerator
Cox, David Physics
Crifasi, Frank Physics
Dickhoff, Richard Supply & Materiel
Epel, Lester Applied Science
Gassner, Harold F. Accelerator
Massard, Rene Mechanical Engr.
Mosley, Robert Security Division
Nardi, Joseph Jr. Physics
Peltz, Barney Biology
Risley, Joseph Plant Engr.
Seifert, Abe Plant Engr.
Shapanka, Roslyn Biology
Sprague, Radford Plant Engr.
Van T Hof, Jack Biology
Welch, Frank Photo & Graphic Arts
Weltz, Josephine Supply & Materiel

World Of BNL

The coming week's schedule for the Laboratory's own radio program, the World of BNL, with host Norb Dernbach, is as follows:

Sunday, April 8

"Radiation and Monkeys"

Dr. Arland Carsten

at 7:00 a.m.

WGLI-AM (1290), Babylon

at 8:00 a.m.

WRCM-FM (103.9), Riverhead

WLIR-FM (102.9), Hempstead

at 8:30 a.m.

WBLI-FM (106.1), Patchogue

Tuesday, April 10

Hydrogen-Pollution Free Fuel (Part I)

at 10:00 a.m.

WSHR-FM (91.9), Lake Ronkonkoma

Selected Reading

Sat. Rev. Sci. 1, April 1973

Memoirs of a Conference Voyeur. D.S. Greenberg. 33

How to win at monopoly. I.R. Hentzel. 44-8

Science 179. March 30, 1973

White House Science: Hail and farewell. D. Shapley. 1311

Borrowed Book Missing

Will the person who borrowed the book, *Industrial Laboratories of the U.S.* from the Reference Section of the Research Library please return it.

Golf News

Jim Petro

Rules for the 1973 Golf Season are approaching the final stage so it's time to start thinking about joining the league. Plans are being made to have a pre-season get together on April 24 at the Recreation Hall. Old members and new members are invited to come down and meet each other, go over the rules for the coming season and partake of some beer and hot dogs to be provided by the BGA. This is the time to come down and air your gripes and offer some constructive advice for the coming season. Don't forget April 24, Tuesday Night, at the Rec. Hall.

French Group Offers "La Salamandre"

The French Group of BNL will present the film "La Salamandre" at Berkner Hall on Thursday, April 19, at 8:30 p.m. The admission charge for non-members will be \$1.50. The film is in French with English sub-titles.

French chateau buffs may recall that the salamander, once thought to be a mythical creature capable of living in fire, was the crest of François I. The salamander of this film is an imperishable young nymph named Rosemonde (Bulle Ogier), who has acquired some notoriety after wounding her uncle with a hunting rifle — although she herself denies having shot him. Two young writers decide to collaborate on a television script of the girl's biography. Paul, a writer and poet (Jacques Denis), believes the motivations of the shooting can best be deduced by free improvisation from the meagre collection of publicly known facts. Pierre, the journalist (Jean-Luc Bideau), prefers to base the story on his own research, carried out largely by interviewing the persons involved. Each of these bright and somewhat naive young men expects to disclose a human being scorched by an intense experience, whereas in fact Rosemonde is insulated by lethargy and narcissism from any animating flame. She is quite willing to talk with, or even to sleep with, Paul and Pierre, but she has nothing to say and nothing to give. The huge, bear-graceful Bideau, and the neat, mordant Denis are intelligent and entertaining young men who make a rite of spring out of surviving their encounter with Miss Ogier's lizard.

Alain Tanner, the Swiss director of "La Salamandre," has been compared with Eric Rohmer (*Clair's Knee; Chloe in the Afternoon*), perhaps because they both deal less in narrative event than in the definition and appraisal of personal relationships. Tanner is at once friendly and cool; he guards the self-respect of his characters.

A special arrangement with the distributor makes it possible to present this film unusually soon after its opening in New York last fall. At that time, the general critical atmosphere was extremely warm, as the following excerpts indicate:

"... A witty, quietly savage little amorality play..." —J.C., *Time*

"... Miss Ogier is sometimes beautiful, sometimes brilliant, sometimes a slob, sometimes beyond mortal comprehension — and always infinitely appealing..."

—Vincent Canby, *N.Y. Times*

"... Made with a drollery, intellect, and gay clarity that are distinct and reviving... The intellectual means are subtle and simple; what one sees on the screen is funny and exact... A beautifully lucid and affectionate film..."

—Penelope Gilliatt, *The New Yorker*

Public Sale of Motor Vehicles

Two (2) Dump Trucks, located at Warehouse T-87, will be available for Public Sale.

Inspection will be permitted from April 11 through April 17, during the hours of 9 a.m. to 4 p.m., except Saturday and Sunday. Bid opening will be held on April 19 at 2 p.m.

Bids will be opened at General Services Administration, Business Service Center Bid Room, 26 Federal Plaza, New York, N.Y. 10007.

This will be an Informal competitive bidding. Bid forms may be obtained at buildings 87 and 211. For further details, please call Ext. 2302 or 2977.

Arrivals & Departures

Arrivals

Andrews, Lawrence C. Chemistry
Bussiere, Jean F. Accelerator
Christie, Geraldine M. Medical
Golovchenko, Jene A. Physics
Jones, Harry G. DAS
Mack, Alfred A. Accelerator
Reinke, Ursula Medical

Departures

Asad, Syed N. Medical
Abeshouse, David J. Accelerator
Alonzo, Patricia M. Medical
Alicea, Denise Mech. Engr.
Ammirati, Vincent Biology
Anderson, Stanley Accelerator
Arnold, George DAS
Austin, Jere DAS

Barberich, Robert Accelerator
Beede, Tyce P & GA
Benske, Richard Accelerator
Becht, Arnold DAS
Benjamin, John Physics
Bookless, John DAS
Brewster, Calvin DAS
Buhl, Paul Instrumentation

Camarda, Salvatore Central Shops
Carlson, Burt Accelerator
Celentano, Vincent Accelerator
Clausen, Sigmund Central Shops
Colby, Dennis Central Shops
Cook, John Central Shops
Cooper, Ruby Physics

Davis, Chester DAS
Drews, Herman Central Shops
Eisold, Mildred Accelerator

Fallon, Peter DAS
Galen, Barry DAS
Gandrey, Jack Accelerator
Gardner, Carl Central Shops
Garfinkel, Bernard Applied Math
Garofalo, Pasquale Accelerator
Gordon, Henry Plant Engr.
Grayson, Audrey E. Systems
Green, Roland Accelerator

Hall, Mary Physics
Haller, Otto Accelerator
Hansen, Donald Accelerator
Hare, John DAS
Hedrick, Margaret Staff Services
Hillerud, Freddy Supply & Mat.
Hopping, John Mech. Engr.
Hulak, Walter Central Shops
Hughes, Walter Plant Engr.
Hughes, Walter Plant Engr.
Hurley, John Physics

Iarocci, Michael Accelerator
Isherwood, Gail Physics

James, Burleigh Plant Engr.
Johnson, Robert Central Shops
Jubenville, Lenore Central Shops

Kadow, Casimir Accelerator
Kalinowski, Walter DAS
Kameika, Walter Systems
Karson, Louis Central Shops
Kazmark, Donald Mech. Engr.
Kennedy, Paul Central Shops
Keute, Frederick DAS
Kiriakos, George Instrumentation
Kluska, Frank Accelerator
Kramp, Edmund Mech. Engr.
Kropp, Bernard Mech. Engr.
Kyhl, Otto Plant Engr.
Kyriakakis, Constan Central Shops

Lazareth, Otto Physics
Lee, Byford Plant Engr.
Lobe, Harold Accelerator
Lundberg, Steven K. Chemistry

McKinley, Thomas Mech. Engr.
McMullan, John Accelerator
McVay, John Accelerator
McLean, Douglas Applied Math.
Martins, Clement Accelerator
Masem, Helen Central Shops
May, John Accelerator
Miles, Frank DAS
Mogk, Robert DAS
Montore, Ann Staff Services

Newson, Odell Plant Engr.
Nilsson, Norman Plant Engr.
Okula, Edmund Plant Engr.
Overton, Raymond Accelerator

Pachinger, Frank Central Shops
Parsons, Walter Instrumentation
Pfister, Richard Accelerator
Potter, Anna DAS
Potter, Louis Accelerator

Radhammer, George Accelerator
Rech, Rita Purchasing
Reilly, Eunice Health Physics
Renner, Arthur Plant Engr.
Rhodus, Hugh Plant Engr.
Ridgeway, Judith DAS
Rittler, Carl Accelerator
Rizzo, Francis DAS
Rodriguez, Cidaliza Plant Engr.
Roe, Sanford Purchasing
Ruge, Henry DAS
Rutuelo, Rose Physics

Salerno, Robert Applied Math.
Sanfilippo, Nicholas Plant Engr.
Seyfert, Jacob Central Shops
Shanack, Sheldon M. DAS
Shreeve, Walton W. Medical
Smith, Burt Accelerator
Smith, Douglas Plant Engr.
Sollanek, Roland Accelerator
Spence, Clayton Central Shops
Spira, Gilbert Accelerator
Stafetas, James Accelerator
Stewart, Paul Physics
Sucher, John Accelerator
Svoboda, Jerry Plant Engr.

Toth, Frank Accelerator
Tramm, Walter Accelerator
Tranis, Arthur Accelerator
Tucker, Charles Plant Engr.

Varela, Jules DAS
Vaughan, Edward Plant Engr.
Venegas, William Sr. Accelerator
Vestal, Grace Staff Services

Wagner, Jean DAS
Walker, Peggy Mech. Engr.
Walser, Paul Plant Engr.
Ware, William Physics
Warren, Mary Fiscal
Watts, Arnold Accelerator
Wennberg, Joseph Accelerator
Williams, John Accelerator
Williams, Paul Plant Engr.
Wilson, Veronica Physics
Woodson, George DAS
Zellner, Edward Central Shops

EMERGENCY PHONE NUMBERS

Medical 2222
Fire 3333
Police 4444

Cafeteria Menu

Week Ending April 13, 1973

Monday, April 9

Cream of Mushroom Soup
Chicken Patties w/Giblet Gravy,
Currant Jelly & 1 Veg. .99
Roast Fresh Ham & 1 Veg. .95
Western Omelet & French Fries .90

Tuesday, April 10

Mulligatawny Soup
Grilled Ham, Sausage & Pineapple
& 1 Veg. .95
Turkey a la King on Noodles .95
Sauerbraten w/Potato Pancakes 1.05

Wednesday, April 11

Yankee Bean Soup
Baked Beef & 1 Veg. .90
Shrimp Chow Mein on Rice
w/Crisp Noodles .90
Polish Kielbasa w/Mashed Potatoes
& Sauerkraut .90

Thursday, April 12

Beef Barley Broth
Beef Hash w/Brown Gravy & 1 Veg. .95
Baked Lasagna w/Meat Sauce & 1 Veg. .95
Broiled Chicken Livers w/Bacon Strips
& 1 Veg. .95

Friday, April 13

New England Clam Chowder
Fish'n Chips .95
Poached Fillet Sole & 1 Veg. .99
Chili con Carne on Rice .95

Bowling News

Grace Fales

Green League

The Bubble Boys hurled a 3134 team series against the Five Welders this week to increase their first place lead by 10 win points. With only 3 weeks to go in the season, it looks like the Bubble Boys will bowl the Designers in the playoffs. Two-hundred's for the night were rolled by W. Kollmer 233/201/303, R. Barberich 221, C. Zevesky 220, J. Cain 214, J. Scesny 212, J. McCaffrey 207, B. Belligan 203, K. Riker 201, J. Eerech 201, and D. Stelmaschuk 200.

Red League

3/27/73: High game: D. Adams 232; high series R. Larsen 633 (217/222), J. Ferrante 619 (520/207), J. Erickson 600 (220). 678 Gross Awards to J. Ferrante 679 and J. Eriksen 687. Other 200's were: J. Baer 213, R. Wilson 202, G. McGovern 204, W. Reams 210, and E. Reams 200.

Pink League

The standings remain the same this week, with one exception; the Hopfuls moved up one position. Honorable mention to Grace Kyhl who was well over average in each game on 3/27. Most scores were a bit low this week - could this be a sign of spring fever? Not suffering the dilemmas of spring fever were: Brita McGonigle 161, Fran Scesny 173, Wilma Quinn 173, Pat Oster 188/486, and Doris Pion 197.

Black and Blue League

With three weeks remaining, there are only seven points separating the first six teams. The Atholes are in first place with the Rolling Stones and the Caisey Cats tied for second one point down. Conversion of splits was accomplished by Annie Kriesberg 5-10 and Lou Caisey 2-7-10. High games rolled by Nancy Mayeski 170/474, Lou Totans 233, and Ralph Taylor 200.

Classified Advertisements

Autos & Auto Supplies

71 VEGA WAGON - Am radio, auto trans, extra wheels, good cond, orig owner. Harry, Ext. 3450, 744-2581 after 5:30.

4 KEYSTONE CUSTOM MAGS - 15"; Chevy alum intake; Tranula Chevy 780 cfm carb; 950 cfm 3 bbl carb; Mallory dual point-Chevy. John, Ext. 3703.

65 PLYMOUTH VALIANT - Runs well, for parts or handyman, needs some work, on site, \$60. Robert, 212-243-5918.

TIRES - 6 ply H78-14, 4 ply polyester-2 ply fiberglass, mounted & balanced on Chevy rims, like new. 2/\$90. D. Lorenz, Ext. 3910.

63 CHEVY WAGON - 283 eng, std trans. \$200. D. Lorenz, Ext. 3910.

69 PONTIAC GTO - R/h, ps, 2 dr, w/w, maroon/blk vinyl top, 400 cu in, 3 spd std, very good cond. \$1200. 924-5065 eves.

64 PONTIAC CATALINA - 4 dr hdt, good transp, runs well, needs some work. \$225. Kinne, Ext. 3334.

67 CHEVY - 2 dr hdt, auto trans, ps, 283 eng; or 68 Chevy 2 dr Nova, 230 cu in, 6 cyl. \$1000. W. Wilshusen, Ext. 4482.

72 VW - Am/fm radio, must sell. 234-2183 after 5. JEEP - Willys utility wagon, 4 w/d, 6 cyl, 1963. Grist, Ext. 3370, 325-1537

2 TIRES - On rims, H78-14, like new, 6 ply top, 4 ply sidewall. \$25 ea or both/\$45 firm. Chet, Ext. 3612, 289-7058 after 6.

DUNLOP TIRE - 6 p y, 7.00x13, used less than 400 mi. \$8. Jerry, Ext. 4289.

Swimming Pool And Gymnasium Procedures

Admission to the Swimming Pool and Gymnasium will be granted only to: employees, members of employees' families (members of the same household), and guests of the above.

An employee or a family member will be permitted to bring no more than five guests per family. Employees or responsible family member must accompany and supervise their guests. If several employees bring a group of youngsters, they must accompany and supervise them in the Pool and Gym areas.

Persons may be denied the privilege of using the recreation facilities for improper conduct or abuse of the equipment.

Parents bringing children to use the Pool should do so no earlier than 15 minutes before its scheduled opening time. Children are to remain in the designated waiting area near the Pool's entrance until the Pool opens for them, and when waiting to be picked up by parents. The Gymnasium will not be available for this purpose.

Children of employees are not permitted in the Gym before 5:00 p.m. on weekdays unless accompanied by an adult.

Employee activity, organized or informal, has first priority in the Gym. Incidental visitor activity is only permitted when space is available and it does not interfere with employee activity.

The official schedule is posted in the Gym. This schedule is subject to revision, as required.

Admission through the gates of the Laboratory to use the Swimming Pool and Gymnasium is controlled by the Police Department. However, members of employees' families are permitted to enter the Laboratory to use the Pool and Gym if they are:

1. accompanied by an employee,
2. in possession of a Season Pool Pass,
3. in possession of a Temporary Identification Card issued by the Personnel Office.

64 CHEVY BELAIR - 4 dr sedan, 6 cyl, std shift. \$215. Jim, Ext. 3330.

70 PLYMOUTH STATION WAGON - Auto trans, air cond, ps/pb, radio, excel cond. 929-8398 after 6.

15" FORD RIMS - \$6/pr. Henry, Ext. 3084.

67 DODGE DART - 4 dr, 6 cyl, auto trans, ps, excel mech cond, good tires, snows incl. \$600. 286-9260 eves.

72 VW SUPER BEETLE - 18,000 mi, many extras. \$1900. 281-2217 after 5.

59 SIMCA - Free, good for parts. R. Zantopp, Ext. 4212.

70 CHEVY MONTE CARLO - 350 eng, ps, p/disc brakes, tilt wheel, excel cond in & out. \$2000. Steve, Ext. 3822, 929-6527 eves.

70 OLDS 88 CONV - R/h, ps/pb, 2 dr, air cond, am/fm stereo, very low miles, excel mech cond. \$1875. 289-0020 after 7.

64 OLDS SUPER 88 - Ps/pb, air cond, radio, must sell now. \$125. Bill, Ext. 4782.

72 PINTO - Std trans, green, A-1 cond. \$1775. 585-8322.

71 HONDA SL-350 - Helmet w/visor, air horns. Russ, Ext. 3396, 924-4453.

68 VW BUS - Good cond. \$1000. Ext. 2467, 286-3944.

64 FORD GALAXIE - 2 dr hdt, runs well, body & tires good cond. Frank, Ext. 2311.

62 RAMBLER CLASSIC - Six, stick, air cond, body fair, mech very good, reliable. \$125. Dave, Ext. 3396.

68 IMPALA SS - Ps/pb, auto trans, new tires & brakes. \$1195. Ext. 2564, 286-3647.

72 PINTO - Auto trans, air cond. \$1850. Ext. 2564, 286-3647.

69 CHRYSLER WAGON - Auto trans, ps/pb, pw, air cond, radial tires, good cond. \$2300. Ext. 2564, 286-3647.

66 LINCOLN CONTINENTAL - 4 dr sedan, green/vinyl top. \$800. 732-8625, 12-9 pm.

64 BUICK SPECIAL WAGON - Good transp. 928-2954.

Boats & Marine Supplies

12' ALUM BOAT - Used only 5 times. Vin, 475-2058 after 5.

31' SUMNERCRAFT MOTOR SAILER 1966 - Diesel, VHF radio, depth finder, ready to go now. Ext. 2564, 286-3647.

18' STARCRAFT MARINER 1972 - Center-console fishing boat, 50 hp Johnson, galvanized trailer, like new. \$1700. David, 286-2295 after 6.

16' CRUISERS LAPSTRAKE - Fully equipped, 1971 Johnson electromatic 40 hp, Holsclaw tilt trailer. R.J. Connolly, Ext. 2495.

17' FIBERGLASS - Fully equipped, 1971 Mercury 50 hp motor, 20 hrs. Mike or Danny, 473-0612.

15' STARCRAFT - Fiberglass tri-hull, 40 hp elec start Johnson, trailer, skis, etc. \$850. Fred, Ext. 3250/4242.

12' STARCRAFT SUPER D ALUM FISHING BOAT - Evinrude 9 1/2, Tee Nee tilt trailer, many extras, all 1972 mint cond. Orig cost. \$1200. F. Federmann, Ext. 2482.

Miscellaneous

AKC MINI POODLES - Blk, females & males. 281-3992.

HAPPINESS FOR ANY CHILD - Shetland pony w/ saddle. \$75. Rose, 281-4478.

LG STORM SASH - Good for cold frames. \$1 ea. Ext. 3655, 281-2002.

HOLLYWOOD BED - W/adjustable Harvard frame & lt blue leatherette headboard, good cond. \$15. Ellie, Ext. 2449.

COURIER MODEL BL-100 L/A - For CB base set. \$85. B.P. Doran, Ext. 2350.

SPACE HEATER - Taken from summer home, no reasonable offer refused. John, Ext. 4174 after 4.

LAWN MOWER - Sears 18" self-propelled reel type, very good cond, w/grass catcher. \$25. Jim, Ext. 4174 after 4.

SINGER PORTABLE RECORD PLAYER - Batt operated, 3 spd, like new. \$15. Ext. 3640.

ENCYCLOPEDIA - Our Wonderful World 1965, excel cond, 20 vols. \$25. Ext. 3640.

UPRIGHT PIANO - Covered w/red velvet-like finish, good action, Sound Beach area. P. Schubert, Ext. 2441, 744-6534 eves.

SINGER SEWING MACHINE - In mahog cabinet. \$25. Ann, 286-2280.

WATER SKIS - 1 pr like new, 1/2 price, \$15; 1 pr good, \$5. Paul, 473-2507.

2 RUGS - 12'x18', never used, Chinese red, w/padding. \$100 ea. 732-8625, 12-9 pm.

GE WALL OVEN - \$15; dbl bed w/o matt, \$15; baby carriage, \$15; 2 school desks, \$10 ea. Bill, 298-4089.

PR GREEN CLUB CHAIRS - \$35; mahog bed w/matt, \$40; sm mahog drop leaf table, \$15. 938-9305 after 7.

HAND MIXER - \$7; walnut coffee table, excel cond, \$75. 286-3742.

ANTIQUE WHITE BREAKFRONT - \$150; imported crystal chandelier, \$150; set antique fireplace and irons, \$40. 938-9305 after 7.

AIR COND - \$30; dbl bed, metal spring, \$3; baby car seat, \$2; Sears dryer free. Ext. 3964, 744-2514.

POOL TABLE - New last Christmas, 43"x81", Minn Fats \$65. Ext. 3420, 281-7155.

APACHE TENT TRAILER - Sleeps 4, w/spare tire & storm window, garaged. \$400. 289-9890.

1966 CAMPER - Super Van, sleeps 4, refrig, sink, stove, stereo & carpet throughout. \$1000. RA8-2553.

CHERRY DROPLEAF TABLE - 3x5 open; maple Boston rocker; 2 oak bureaus, Victorian. 473-0802.

OVERSTOCKED! - Infant clothes, some in orig wrapping-from sizes 1 wk to 3 mos; a good deal of dresses & blankets; make your own price. Marlene, Ext. 3131.

PANASONIC CONSOLE STEREO - W/am/fm radio, good cond. 475-8305 after 6.

COUCH - Vinyl covered cushion w/2 bolsters, like new, good for TV rm. \$75. 289-3114.

2 UPHOLSTERED LIV RM CHAIRS - Blue, 1 hassock, a set. \$35. Ed, Ext. 4201.

MAPLE BED - Full size, new matt. \$60. 475-8426.

SMITH-CORONA ADDING MACHINE - \$40; 2nd seat for a van, like new. \$30. 281-3292 after 5.

TOY POODLE - Blk female, 4 mos old, housebroken, AKC, all shots. 724-3519.

BABY STROLLER/CARRIAGE - Brown wicker, \$6; hand meat slicer, \$3; old long-handled water pump, \$25; old farm scale, \$20. 727-1617.

HOT AIR FURNACE HUMIDIFIER - Plate type, new, \$5; water tank air volume control & fittings, new, \$2. Paul, Ext. 4043.

PORTABLE TYPEWRITER - \$15; car vacuum cleaner, new cond, \$5. Paul, Ext. 4043.

SOFA - 3 pc curved sectional, round coffee table-mahog. 744-9822 after 6.

BICYCLE - Boy/girl, 2 wheeler w/training wheels. 744-9822 after 6.

TABLES - 4x4 masonite top, folding legs, 4'h. \$10. 744-5871.

ORLON YARN - 3 & 4 ply, over 40 colors. \$2.50/lb; \$1.25/1/2 lb, etc. Will deliver to Lab or may be picked up at my home. Ann, Ext. 3163, 732-9384 after 6.

DANISH MOD HI FI - 3 spd, elec organ, excel cond. 654-0128.

6' EFFICIENCY KITCHEN - Appliances & cabinets, like new. 981-1749.

FISH TANKS - 29 gal, all glass, 20 gal s/s, incl fish, Queen Ann stand, gro lux hoods, elec filters, air pumps & access. 281-2767 after 6.

INSERTS FOR ALUM STORM DOOR - Glass 21"x26 3/4", 39 1/2"x26 3/4"; screen 39 1/2"x26 3/4". Ext. 3655, 281-2002.

EXTENSION CORD - Heavy duty 14 gauge, several lengths, 50' & 100', 2 wire. Ext. 4708, 744-9436.

SPEAKER - 15" Tannoy coax in Carlson enclosure, magnificent sound at low price. Ext. 4708, 744-9436.

Real Estate

Real Estate advertised for sale or rent is available without regard for the race, color, creed or national origin of the applicant.

For Sale

HOLTSVILLE - 5 rm duplex condominium, low cash over, beautifully decorated, central air cond, w/w, 2 pools. 654-0128.

4 BEDRM HOUSE - Excel cond, quiet dead-end st, near bay, deeded dock rights, air cond, fireplace, full bsmt, garage, landscaped lot, near schools & shopping. 878-0817.

100'x100' CLEAN LOT - Cyclone fenced front, hedged both sides, in Bellport Village near everything. 286-0376.

4 BEDRM COLONIAL - 3/4 acre in Rocky Pt "Tides," carpeted, formal din rm, fireplace, den, all app, full cellar, priv beach, 1 1/2 baths, oil-hw heat. \$39,900. 744-8240.

WEST PATCHOGUE - Older 3 bedrm cape, din rm, 2 car garage, 50'x165' lot. 289-0413 after 5:30.

MEDFORD - High ranch, 3 bedrms, fin bsmt, clean, att garage, lot 80'x105'. \$26,500. J. Guithy, 485-8083.

CENTEREACH - 2 story, 1/2 brick, 4 bedrms, lg liv rm, eat-in kitchen, fin full bsmt, 1 1/2 baths, in-ground pool, landscaped, FHA app, low taxes, principles only. 585-2665.

For Rent

FURN RM - Kitchen privileges. W. Lundgren, Ext. 4278, 585-3794.

3 BEDRM RANCH - 2 baths, full bsmt w/fin rec rm, lg alndscaped lot beside wooded area in Brkhvn Hamlet, unfurn. 286-0726, 286-1024.

Wanted

USED COLOR PORTABLE TV - Good cond, reasonable. Ext. 3316.

PHOUBARS - Any size, any cond, to help resurrect the spirited softball team of the past, playing ability not pre-requisite, sociability essential. Ext. 2893.

8' ALUM BOAT - Flat bottom, square at both ends, and sturdy. Trudi, Ext. 3058.

VOICES - To join Choral Soc of the Moriches, practice on Mondays, 8 pm, E. Moriches HS, for May 26 spring concert. L. Tang, Ext. 3651.

BOBBIN CASE - For old Elna sewing machine. F. Rumph, Ext. 4581.

DEHUMIDIFIER - Toaster oven. Ext. 3655, 281-2002.

TIRE - 6.50x13 in good cond. H. Susskind, Ext. 4465/4461.

HOMES - For 2 male pups, blk, mongrel, cute, 3 mos old, housebroken. Ext. 4417, 924-3338.

